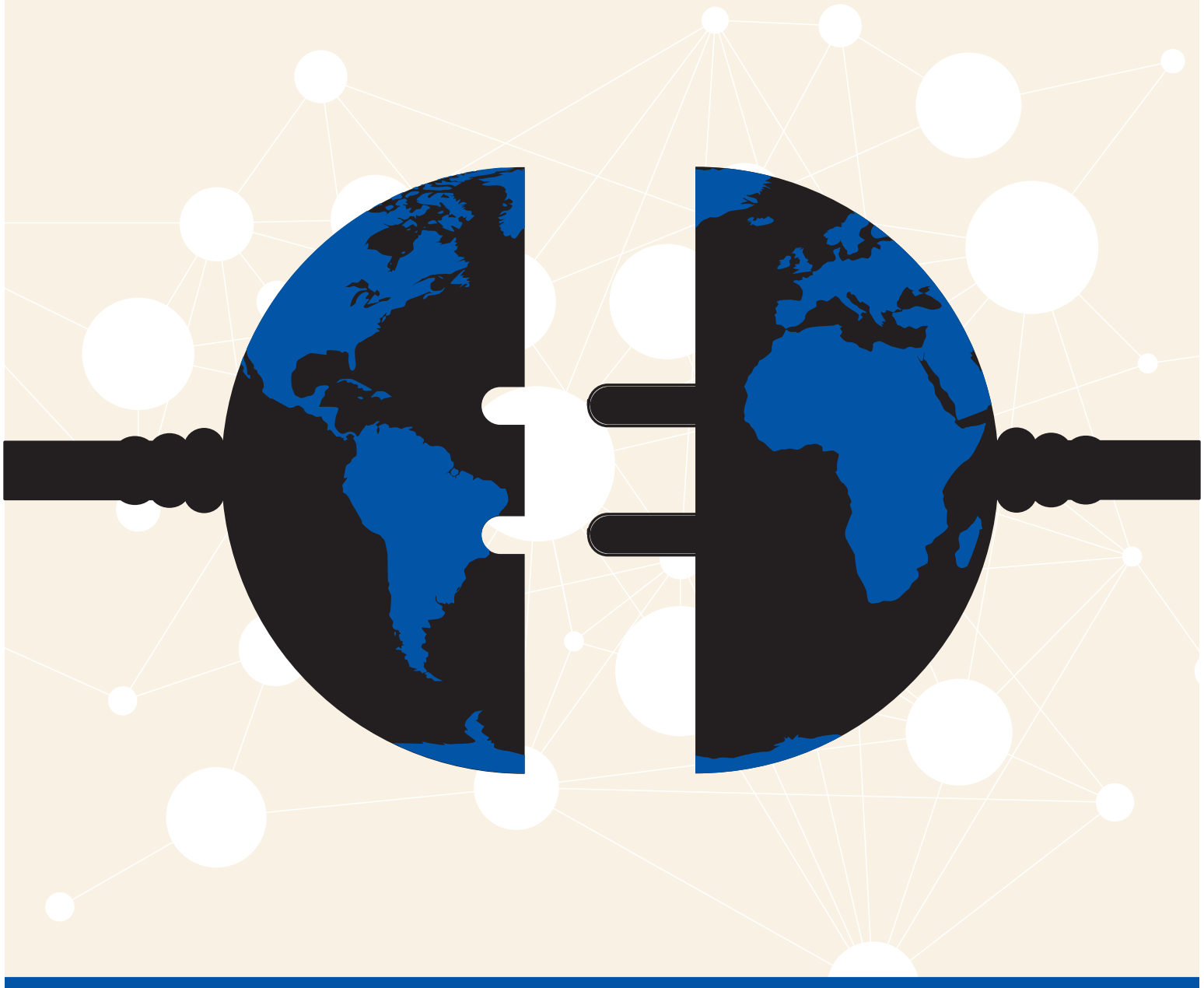
ACCESS TO SUCCESS:
THE ROLE OF TECHNOLOGY IN DELIVERING PERSONALIZED LEARNING



ALWAYS LEARNING

PEARSON

Technology is constantly changing how we communicate, work, socialize, and ultimately, how we live.

These advancements are also redefining how teachers teach and students learn. Schools across the United States and around the world are facing the challenges of engaging modern, Internet-savvy students while trying to withstand financial stressors—all while preparing students for college and careers in a global marketplace. Personalized learning enabled by technology can bridge the gap between how students live and how they learn

Why Personalized Learning?

Interactive text, videos, animations, and other features in digital instructional programs allow educators to provide more dynamic, personalized lessons with assessment tools that determine in real-time each student's level of performance to help teachers quickly identify academic strengths and weaknesses and personalize remediation. High-speed broadband access empowers educators with research-based technology and services that can be integrated and implemented through a seamless network infrastructure, providing a personalized learning experience for students, teachers, and parents. Technologies such as video, mobile devices, and cloud services are the catalyst for successful data management, personalized curriculum, teacher effectiveness tools, virtual and blended learning, professional development, and project management and implementation.

Technology components for effective personalized learning:

Adaptive curriculum, in which effective instruction is adapted to each student's learning needs, featuring digital manipulatives to engage, programs that support student-centered and teacher-facilitated instruction, and immediate assessment to further drive instruction.

Mobile learning tools that allow students to achieve academic success where they are—online. Additional aids include a rich set of collaboration tools for school staff and students as well as effective methods of communicating with parents.

An Instructional Improvement System that uses precise, formative data to personalize instruction and learning. With data at their fingertips, educators can adapt student learning plans as the student progresses, ensuring personalized learning throughout the student's academic experience, informed instruction, and curriculum to meet requirements and maximize student achievement.

The Benefits of a Personalized Learning Environment

For Students

Students will be able to learn at their own pace and be challenged consistently to utilize critical thinking, communication, and collaboration skills while becoming more responsible for their own learning. Digital learning can bridge not only the gap between home and school, but the learning gap between high- and low-achieving students.

For Educators

Educators are being held to increasingly higher standards for school, teacher, and student performance. Instant access to reliable data can help in developing customized learning solutions, assessment, and instruction, and provide the blueprint for comprehensive teacher and school efficiency.

For School Districts

Districts can deploy integrated data systems and learning environments that will integrate all student data, assessments, reporting, and mobile access into a single environment so each student's achievement data and learning progress is available anytime and anywhere. This real-time data will allow teachers to make instructional adjustments to the needs of each learner, while allowing the students to constantly be aware of their progress toward meeting their academic requirements.

Improved Outcomes and Lower Costs through Personalized Learning

An important body of research conducted by Project RED was completed in 2010 by a collection of expert researchers and authors. Looking at what contributed to success in schools using computers as a primary resource, this research identified a number of success factors. Based on data collected from more than 1,000 schools, including those in Mooresville, NC *(see sidebar)*, the Project RED study identified nine critical success factors that contributed to improvements in student achievement and return-on-investment:

Intervention classes – Technology is integrated into every intervention class period.

Change management leadership by principal – Leaders provide time for teacher professional learning and collaboration at least monthly.

Online collaboration – Students use technology daily for online instruction.

Core subjects – Technology is integrated into the core curriculum weekly or more frequently.

Online formative assessments – Assessments are done at least weekly.

Student-computer ratio – Lower ratios improve outcomes.

Virtual field trips – With more frequent use, virtual field trips are more powerful. The best schools do these monthly.

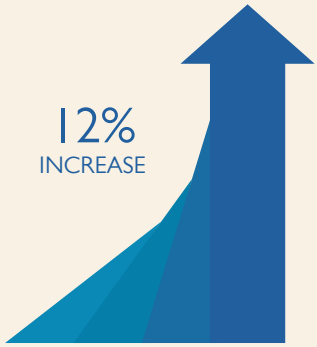
Search engines – Students use search engines daily.

Principal training – Principals are trained in teacher buy-in, best practices, and technology-transformed learning.

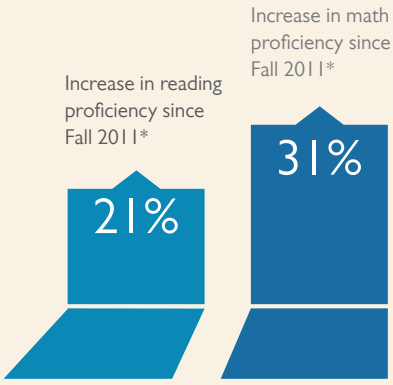
Personalized Learning Improves the Achievement Gap

Innovations in North Carolina

In 2007, the Mooresville Graded School District (MGSD)—led by Superintendent Mark Edwards—examined student performance, spending, and results against desirable outcomes. Their vision was to increase the graduation rate, reduce the dropout rate, and prepare students for 21st century jobs. The district provided laptops to every teacher and student in 4th–12th grades. Today, students engage digitally with lessons, work at their own pace or in groups, and stay motivated to learn. Teachers can manage classrooms more effectively with time-saving, online grading and instant performance assessments. MGSD has since become the 3rd highest performing school district in North Carolina, and has become a national success story. In partnership with Pearson, MGSD has attained a 99% graduation rate from its students in credit recovery. The innovations taking place in MGSD are the basis for Pearson's approach to 1:1 Learning at the K–12 level.



College matriculation rate has risen 12% from 74% to 86% since 2007.



*Consolidated Assessment Proficiency Report for STAR Math & Reading

A Digital Revolution in Alabama

The Huntsville City Schools district recently implemented a 1:1 Learning program for over 24,000 students. In June 2012, the district made the groundbreaking decision to bring real-world, digital technology to all students and teachers. In just three months using the new digital learning environment, the district saw improvements: in academics through higher benchmark scores, in student engagement through round-the-clock course logins, and discipline incidents were down across all 42 schools in the district. Since transitioning to digital, there has been a 21% increase in reading proficiency as well as a 31% increase in math proficiency.

Considerations for a Successful Implementation of Personalized Learning

Broadband access

Schools must verify that they have adequate wireless capacity to support a technology-driven personalized learning environment. The Chief Technology Officer for one of the nation's model 1:1 Learning programs—Mooresville Graded School District in North Carolina—recommends 100 MB as the minimum bandwidth, ideally with a 500 MB connection to the Internet.

The digital divide

To address equity issues within a district and provide access to content for students with limited or no Internet connectivity at home, schools must develop an alternative content format plan that may include providing content on a CD or in other formats that can be imaged on student devices or pushed out to student devices.

Digital devices

Schools should be confident that any combination of devices selected for their implementation will work effectively and be a good match for their form factors. In addition to the initial device selection, some other important factors to be considered related to hardware include:

- Screen Size and Navigation – Is the screen size appropriate for effective student engagement and navigation? What issues, if any, does the district need to work around?
- Battery Life – Does the standard battery life on the devices match the typical length of school day while using the devices throughout the day? If not, how will students keep the devices charged and how will teachers manage classrooms when students' devices run out of power?
- Network Access – How will students access their curriculum and student data outside of school? Are the devices provided adequately equipped to allow for anywhere access?
- Creative Presentation Suite – Successful programs provide creative tools for students to build and present their understanding of key concepts and projects. Do these devices come equipped with an effective creative suite as a standard feature?
- Transport – How will the students carry their devices around school and around their communities? Will the school provide a laptop bag to accommodate this or at least make a recommendation towards an effective bag for families to purchase?

Professional Development: Personalized Learning for Educators Too

One of the greatest challenges to success is supporting educators as they make adequate, authentic, and rapid change to their traditional practices. Today, professional development courses need to prepare teachers to align digital tools and lessons with standards and objectives to make lessons more effective, with practical ideas for immediate classroom use.

Educators must be prepared to

- Improve rigor through technology-based strategies
- Expand the use of technology
- Systematically support change of teacher practice

Educators and school districts can leverage quality, cost-effective professional development courses online that allow teachers, administrators, and specialists to build capacity through interactive, personalized learning modules that are self-paced, fused, or online modalities.

"The new digital learning environment will allow Huntsville schools to provide 24/7 access for students and teachers—at last doing away with the traditional boundaries of time and space that hamper old style schools."

Dr. Casey Wardynski
Superintendent, Huntsville City School District, AL

Next-Generation Programs Underscore Personalized Learning

Pearson is instrumental in developing digital programs and services that support students, educators, and school districts as they make the conversion to digital and personalized learning for all students. Digital programs and services leverage the power of technology to help educators nurture college and career readiness, move to next-generation learning and assessment, develop successful intervention strategies, and improve educator effectiveness.

Digital resources deliver personalized learning, instruction, and assessment:

- aimsweb: The next generation of the powerful system that integrates assessment, data management, and reporting, and provides educators with decision-making tools. Data is delivered through a new interface, featuring dynamic and interactive screens, and hovers that allow teachers to quickly access more information about a student or task.
- Flipped Learning – In collaboration with the Flipped Learning Network, Pearson provides educators with tools, resources, and professional development for implementing this new instructional model that transforms the classroom from a teacher-centered to student-centered learning environment.
- iLit – A core reading program for struggling readers, and the first and only complete instructional solution built and delivered on iPad. iLit offers each students personalized learning support based on their own instructional needs, engaging interactivities, and built-in reward systems that motivate students and track their progress.
- OpenClass – A dynamic, scalable, cloud-based learning environment that stimulates social learning and enables the distribution of content at massive scale to students wherever they are. OpenClass is a new kind of learning management system (LMS) delivered from the Cloud. It is easy to use and completely free. There are no hardware, licensing or hosting costs, thus enabling widespread adoption of new learning approaches that encourage interaction within the classroom and around the world.
- Schoolnet – An instructional improvement system that gives educators tools for assessment, curriculum management, reporting, data analysis, and educator development, Schoolnet can import and manage Pearson, third-party, or district-created content to empower teaching and learning.
- SuccessMaker for iPad – SuccessMaker, Pearson's award-winning program that delivers supplemental instruction in English/language arts and math for grades K-8 to support Common Core learning, will be available for iPad in fall 2013.

Funding the Personalized Learning Environment with E-rate

A successful personalized learning environment hinges on adequate broadband capacity and access as well as compatible digital devices.

The E-rate program provides substantial discounts to public and private schools and public libraries for the purchase of components necessary to the personalized learning environment.

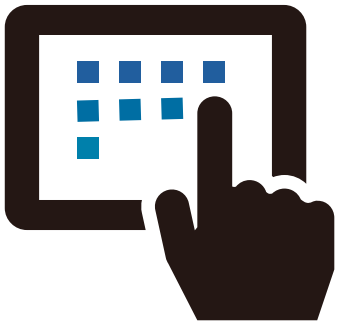
There are four categories of E-rate eligible products and services available to schools and libraries:

Telecommunications services. Including traditional local, long-distance, cellular and paging services, and high-speed services such as T-1, ISDN, and DSL, among others.

Internet access. Covering access to the Internet, and can include dial-up, broadband, fiber, or other types of access, as well as e-mail web hosting, and other hosted services.

Internal connections. Covering the purchase of networking equipment and software necessary to transport information to schools and libraries.

Basic maintenance of internal connections. Repair work and technical support or E-rate eligible equipment.



"Broadband connections are the building blocks of "digital classrooms," in which highly-customizable digital learning resources replace one-text-fits-all print materials to expand the quality and variety of online solutions available to support teaching and learning. In these classrooms, broadband powers learning environments that respond in real-time to individual student needs and move aggressively to elevate achievement."

The Harvard Crimson
September 27, 2011

Modernizing E-rate to Keep Pace with Digital Learning

Due to the dramatic expansion of digital learning technologies over the last decade, the Federal Communications Commission proposed a modernization to the 1997 E-rate program in July 2013, placing greater emphasis on increasing broadband capacity.

Among the proposed updates:

- Simplifying rules on fiber deployment to lower barriers to new construction
- Prioritizing funding for new fiber deployments that will drive higher speeds and long-term efficiency
- Phasing out support for services like paging and directory assistance
- Ensuring that schools and libraries can access funding for modern high-speed Wi-Fi networks in classrooms and library buildings
- Allocating funding on a simplified, per-student basis

These updates to the program acknowledge the expanding role that technology has played in schools and libraries in the last 15 years and the expected trajectory for growth in the future.

Source: [http://www.fcc.gov/document/fact-sheet-update-e-rate-broadband-schools-and-libraries]

Executive Summary

Students today are immersed in technology and educators need the right resources and the right skills to engage them in the learning process. Personalized learning enabled by technology can bridge the gap between how students live and how they learn, provide students with greater opportunity to manage their own learning style and pace, and allow teachers more opportunity to effectively evaluate student performance, apply intervention, and assess results.

The technology components critical to effective personalized learning include an adaptive curriculum, in which effective instruction is adapted to each student's learning needs; mobile learning tools that allow students to learn online; and an Instructional Improvement System that uses precise, formative data to personalize instruction and learning.

Benefits of a personalized learning environment: students will learn at their own pace and become responsible for their own learning; educators can develop customized learning solutions, assessment, and instruction, building efficiency; and districts can integrate all data into a single environment for any time, anywhere access.

A successful implementation of personalized learning requires adequate broadband access and capacity, alternative content format plans for students with limited home connectivity, and digital devices that work effectively and match the needs of the implementation.

Personalized professional development courses must prepare teachers to align digital tools and lessons with standards and objectives to make lessons more effective, with practical ideas for immediate classroom use.

E-rate is a valuable source of funding, providing discounts to schools and libraries for the purchase of telecommunications services, Internet access, internal connectivity equipment, and basic maintenance of the components necessary to the personalized learning environment.